

WHAT IS CLAIMED IS:

1. A method of preparing a fluid mixture comprising predetermined amounts of two or more fluids, the method comprising the steps of:

5 providing a first vessel comprising a body and a neck extending upwardly from said body, said neck having a smaller cross-sectional area than said body;

delivering a first fluid to said first vessel to fill said body and at least a portion of said neck;

10 reading a sight tube connected to said first vessel, said sight tube indicating an amount of said first fluid in said first vessel;

discontinuing said delivery of said first fluid when said sight tube indicates that a predetermined amount of said first fluid is in said first vessel;

providing a second vessel;

delivering a second fluid to said second vessel;

15 reading a sight tube connected to said second vessel, said sight tube indicating an amount of said second fluid in said second vessel;

discontinuing said delivery of said second fluid when said sight tube indicates that a predetermined amount of said second fluid is in said second vessel;

20 delivering said predetermined amounts of said first and second fluids to a mix chamber; and

mixing said predetermined amounts of said first and second fluids in said mix chamber.

25 2. The method of Claim 1, wherein said second vessel comprises a body and a neck extending upwardly from said body, said neck having a smaller cross-sectional area than said body, and said delivering of said second fluid to said second vessel comprises filling said body and at least a portion of said neck of said second vessel.

3. A chemical delivery apparatus, comprising:

30 a first vessel comprising a body and a neck extending upwardly from said body, said neck having a smaller cross-sectional area than said body, a fluid inlet

near a top of said neck, a fluid outlet near a bottom of said body, a first sight tube port near the top of said neck, a second sight tube port near the bottom of said body, and a vent opening near the top of said neck;

5           a first fluid source selectively communicating with said first vessel through said fluid inlet of said first vessel;

              a sight tube connected between said first and second sight tube ports of said first vessel, said sight tube indicating an amount of fluid in said first vessel;

              a second vessel comprising a fluid inlet and a fluid outlet;

10           a second fluid source selectively communicating with said second vessel through said fluid inlet of said second vessel; and

              a mix chamber selectively communicating with said first and second vessels through said fluid outlets of said first and second vessels.

4.           The apparatus of Claim 3, wherein a cross-sectional area of said neck is less than about one-third that of said body.

15           5.       The apparatus of Claim 3, further comprising an optical sensor, said optical sensor sensing a height of a fluid column in said sight tube.

6.           The apparatus of Claim 5, further comprising a programmable controller in communication with said optical sensor.

20           7.       A method of preparing a fluid mixture comprising predetermined amounts of two or more fluids, the method comprising the steps of:

              providing a vessel comprising a body and a neck extending downwardly from said body, said neck having a smaller cross-sectional area than said body;

              delivering a first fluid to said vessel to fill a portion of said neck;

25           reading a sight tube connected to said vessel, said sight tube indicating an amount of said fluid in said vessel;

              discontinuing said delivery of said first fluid when said sight tube indicates that a predetermined amount of said first fluid is in said vessel;

              delivering a second fluid to said vessel to fill a remaining portion of said neck and at least a portion of said body;

30           reading said sight tube;

discontinuing said delivery of said second fluid when said sight tube indicates that a predetermined amount of said second fluid is in said vessel; and  
delivering said predetermined amounts of said first and second fluids to a storage chamber.

5        8.        The method of Claim 7, wherein said reading comprises sensing a height of a fluid column in said sight tube with an optical sensor.

10      9.        A chemical delivery apparatus, comprising:  
                a vessel comprising a body and a neck extending downwardly from said body, said neck having a smaller cross-sectional area than said body, a first fluid inlet near a top of said body, a second fluid inlet near a top of said body, a fluid outlet near a bottom of said neck, a first sight tube port near a top of body, a second sight tube port near a bottom of said neck, and a vent opening near a top of said body;

15      a first fluid source selectively communicating with said vessel through said first fluid inlet;

                a second fluid source selectively communicating with said vessel through said second fluid inlet;

20      a sight tube connected between said first and second sight tube ports, said sight tube indicating an amount of fluid in said first vessel; and

                a storage chamber selectively communicating with said vessel through said fluid outlet.

10.      The apparatus of Claim 9, wherein a cross-sectional area of said neck is less than about one-third that of said body.

25      11.      The apparatus of Claim 9, wherein said vessel further comprises a transitional region between said body and said neck, said transitional region having a cross-sectional area that decreases progressively from said body to said neck.

12.      The apparatus of Claim 11, wherein a cross-sectional area of said neck decreases from said transitional region to the bottom of said neck.